REMARKS

Reconsideration of this application, as amended, is respectfully requested. Claims 1-5, 7-14 and 30 are pending. Claims 1-5, 7-14 and 30 stand rejected.

Claims 1 and 30 have been amended. Claim 5 has been cancelled. Claim 31 has been added. Support for the amendments is found in the specification, the drawings, and in the claims as originally filed. Applicants submit that the amendments do not add new matter.

Rejections Under 35 U.S.C. §102(b)

Claims 1-3, 7-8 and 30 stand rejected under 35 U.S.C. §102(b) as being anticipated by Japanese Patent No. JP 04144130 of Ogawa Kaoru ("Kaoru"). The Examiner stated that

> Ogawa Kaoru discloses a plasma chamber (Abstract and Fig. 3), a circular (solid) shield plate and a support structure for the shield plate (Fig. 3). Regarding claim 8 it is inherent that the dimensions of the shield plate will be determined according to size of substrate and the plasma chamber. Regarding the claim of the shield being stationary, it is an intended use limitation. The shield of Ogawa Kaoru does not have to rotate. It could be just left stationary.

(p. 2, Office Action 2/19/04) (Emphasis added)

Applicants respectfully submit that Kaoru does not disclose a "circular" shield as averred by the Examiner. Neither the figures nor any part of the translated abstract disclose a shape of the shield. The Examiner is invited to direct applicants to that portion of Kaoru that discloses a "circular" shield.

Applicants respectfully submit that claim 1 is not anticipated by Kaoru under 35 U.S.C. §102(b). Amended claim 1 includes the following limitations:

> An apparatus comprising:
>
> a plasma chamber containing a plasma for a plasma-assisted material process upon a substrate;
>
> a solid shielding plate within said plasma chamber disposed between the substrate and a gas inlet of the plasma chamber to actively direct ion flux to desired areas of the substrate; and
>
> a supporting structure to support said shielding plate in a stationary position within said chamber, the support structure comprised of three supports each of the three supports contacting the solid shielding plate in a corresponding location.

(Amended claim 1) (emphasis added)

Applicants respectfully submit that the shielding plate of Kaoru is not disclosed to be supported by a supporting structure comprised of three supports. As disclosed, the shielding plate of Kaoru is supported on an axle-like member, perpendicular to the plane of the wafer, around which the shielding plate rotates. This means that the support structure in Kaoru has two supports and cannot have three, in contrast to the claimed present invention. Applicants have amended claim 1 to clarify that the solid shielding plate of the present invention is supported by a supporting structure having three supports. Further, applicants respectfully maintain that the shielding plate of Kaoru is not supported in a stationary position as claimed.

For these reasons, applicants respectfully submit that claim 1 is not anticipated by Kaoru. Given that claims 2, 3, 7, and 8, depend, directly or indirectly, from claim 1, applicants respectfully submit that claims 2, 3, 7, and 8 are, likewise, not anticipated by Kaoru. Further, given that amended claim 30 includes the limitation of a supporting structure having three supports, applicants respectfully submit that claim 30 is not anticipated by Kaoru for the reasons discussed above.

Rejections Under 35 U.S.C. § 103(a)

Claims 1-5, 8-11 and 13-14 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,534,751 of Lenz, et al. ("Lenz") in view of Japanese Patent No. JP 04144130 of Ogawa Kaoru ("Kaoru"). The Examiner has stated that

> Lenz, et al. discloses a plasma chamber (Fig. 1), a circular shield plate of dielectric to confine the plasma (to actively direct ion flux) and a support structure also of dielectric having 6 support members (Fig. 2 and Col. 6, lines 16-26) and the thickness of shield plate being 2.4 mm (Col. 7, line 8). The apparatus disclosed by Lenz, et al. discloses that the apparatus could be used for etching or CVD.
>
> Lenz, et al. do no disclose the shield to be a solid circular plate.
>
> Ogawa Kaoru discloses a circular (solid) shield plate and a support structure for the shield plate (Fig. 3-3).

> Therefore, it would have been obvious for one of ordinary skill in the art at the time invention was made to have a solid shield to actively direct ions outside the shield for uniformity of etching.

(p. 2-3, Office Action 2/19/04)

Applicants respectfully submit, however, that claim 1 is not obvious under 35 U.S.C. §103 in view of Lenz and Kaoru.

As discussed above, the amended claims have the limitation of a "supporting structure having three supports" each support contacting the shield plate in a distinct location, this limitation is inconsistent with Kaoru. Moreover, Lenz also fails to disclose this limitation. In Lenz, the support is a ring assembly comprised of a stack of circular rings. Only the topmost ring contacts the shield plate.

It is also respectfully submitted that Kaoru does not teach or suggest a combination with Lenz and that Lenz does not teach or suggest a combination with Kaoru. The support structure of Lenz would not allow the shield of Kaoru to rotate and therefore the support structure as taught in Lenz is incompatible with Kaoru. Kaoru teaches away from any incorporation with Lenz for this reason. Moreover, such a combination would still lack a supporting structure having three supports as claimed in amended claim 1, as the rotatable shielding plate of Kaoru is inconsistent with such a limitation.

Given that claims 2-5, 8-11 and 13-14 depend, directly or indirectly, from claim 1, applicants submit that claims 2-5, 8-11 and 13-14 are not obvious under §103 in view of the references cited by the Examiner.

Claim 12 stands rejected under 35 U.S.C. §103 as being unpatentable over Japanese Patent No. JP 04144130 of Ogawa Kaoru ("Kaoru") in view of U.S. Patent No. 6,008,130 of Henderson, et al. ("Henderson").

Applicants respectfully submit that claim 12 is not obvious in view of the cited references due to its dependency upon amended claim 12 for the reasons stated above.

Applicants respectfully submit that Henderson is not permissibly combinable with Kaoru for the reasons discussed above. Henderson teaches the same fixed and rigid structure for the shield as Lenz.

Moreover, Henderson discloses that only annular corners 50 and 52 are rounded off to reduce stress related flaking of the film from the shield. In contrast, the claimed present invention rounds all edges to reduce the risk of electrostatic discharge. Applicants respectfully maintain that Henderson does render this limitation obvious. Henderson discloses specifically which corners are rounded and provides the motivation for such. In specifically not mentioning rounding of other corners, Henderson actually teaches away from such. The Examiner is invited to reconsider the basis for this rejection.

It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. If there are any additional charges, please charge Deposit Account No. 02-2666 for any fee deficiency that may be due.

Respectfully submitted,

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